UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,358	04/24/2001	Zheng Chen	MS1-686US	8976

22801 7590 03/22/2007		EXAMINER
LEE & HAYES PLLC		LE, NHAN T
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SPOKANE, WA 99201	ART UNIT	PAPER NUMBER
	2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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lhptoms@leehayes.com

	Application No.	Applicant(s)
Office Action Summary	09/843,358	CHEN ET AL.
	Examiner	Art Unit	
	Nhan T. Le	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR·1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>12 January 2007</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-60</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,3-7, 9-12,14-27,29-37,39-57,59 and 60</u> is/are rejected.

7) ☒ Claim(s) <u>2,·8, 13, 28, 38, 58,</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last

Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 1, 5-7, 9, 10, 15-17, 19-21, 23-26, 29, 32, 33, 36, 41, 42, 45-50, 52, 55-

57, 59 , 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang

(US 6,674372) in view of Ho et al (US 6,307,541).

As to claims 1, 17, 21, 29, 36, 45-50, 52, Ouyang teaches Chinese input method

comprising: a keypad of number keys to receive an input string representative of one or

more phonetic characters (see fig. 1, number 100, col. 7, lines 10-45); a language

system to receive the input string entered via the keypad to generate likely Chinese

language characters based on the input string (see fig. 1, numbers 400, 600, 700, col.

7, lines 10-45); a language model to derive likely Chinese language character based on

the input string (see fig. 1, number 700, col. 7, lines 27-45) and a processor operative

with the key pad (see fig. 1, number 300, col. 7, lines 10-26) and memory (see fig. 1,

number 600, col. 7, lines 10-26) to support at least the following modes: present of the

likely Chinese language characters on a display (see fig. 1, number 200, col. 2, lines 10-45) selection of the likely Chinese language characters and further input of one or more Chinese phonetic characters on the keypad (see col. 7, lines 46-67, col. 8, lines 1-32); Ouyang fails to teach the language system being configured to facilitate input of the input string and selection of a language character, wherein the number keys having associated letters of an alphabet. Ho teaches the language system being configured to facilitate input of the input string and selection of a language character, wherein the number keys having associated letters of an alphabet (see fig. 2, col. 3, lines 57-67, col. 4, lines 1-41, fig. 6, number 604, col. 12, lines 25-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ho into the system of Ouyang in order to speed up the language conversion process.

As to claims 5, 19, 32, 41, 55, the claims are rejected as to claim 1 above.

As to claim 6, 42, 56, the combination of Ouyang and Ho teaches the device, wherein the language system includes a sentence-based search engine to derive the language characters based on context of the input string within one or more words of a common sentence (see Ho fig. 6, number 604, col. 12, lines 25-45).

As to claim 9, the claim is rejected as to claim 1 above.

As to claims 10, 59, the claims are rejected as to claim 1 above.

As to claim 15, the combination of Ouyang and Ho teaches a scroll control key to present other likely language character (see fig. 6, number 604, col. 12, lines 25-45).

As to claims 16, 20, 23, 26, 60, the combination of Ouyang and Ho teaches a

mobile device embodied as a mobile phone (see Ho fig. 2, col. 3, lines 57-67, col. 4,

lines 1-41).

As to claims 18, 22, 30, the combination of Ouyang and Ho teaches a mobile

device, wherein the phonetic characters are Chinese (see Ho Abstract).

As to claims 7, 24, 57, Ouyang teaches Chinese input method comprising: a

keypad of number keys to receive an input string representative of one or more phonetic

characters (see fig. 1, number 100, col. 7, lines 10-45); a language system to receive

the input string entered via the keypad to generate likely Chinese language characters

based on the input string (see fig. 1, numbers 400, 600, 700, col. 7, lines 10-45); a

language model to derive likely Chinese language character based on the input string

(see fig. 1, number 700, col. 7, lines 27-45) and a processor operative with the key pad

(see fig. 1, number 300, col. 7, lines 10-26) and memory (see fig. 1, number 600, col. 7,

lines 10-26) to support at least the following modes: present of the likely Chinese

language characters on a display (see fig. 1, number 200, col. 2, lines 10-45) selection

of the likely Chinese language characters and further input of one or more Chinese

phonetic characters on the keypad (see col. 7, lines 46-67, col. 8, lines 1-32); Ouyang

fails to teach the language system being configured to facilitate input of the input string

and selection of a language character, wherein the number key having associated

letters; a statistical language model to convert one or more Chinese phonetic characters

to Chinese character that are not part of the alphabetic using at least neighboring word

in common sentence; wherein the number keys having associated letters of an alphabet

. Ho teaches the language system being configured to facilitate input of the input string

and selection of a language character (see fig. 6, number 604, col. 12, lines 25-45); a

statistical language model to convert one or more Chinese phonetic characters to

Chinese character that are not part of the alphabetic using at least neighboring word in

common sentence (see Ho Abstract, col. 18, lines 45-53); wherein the number keys

having associated letters of an alphabet (fig. 2, col. 3, lines 57-67, col. 4, lines 1-41)

. Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to provide the teaching of Ho into the system of Ouyang in order to

speed up the language conversion process.

As to claim 25, the combination of Ouyang and Ho teaches wherein the alphabet

is an English alphabet and the language characters are Chinese (see Ho fig. 6, number

604, col. 12, lines 25-45, fig. 2, col. 1, lines 15-39).

As to claim 33, the combination of Ouyang and Ho teaches comprising deriving

the language characters using a context-based statistical language model (see Ho fig.

6, number 604, col. 12, lines 25-45, fig. 2, col. 1, lines 15-39).

2.   Claims 3, 4, 31, 32, 37, 39, 40, 53, 54 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Ouyang (US 6,674372) in view of Ho et al (US 6,307,541),

further in view of Griffin et al (US 6,489,950).

As to claims 3, 4, 31, 32, 37, 39, 40, 53, 54, the combination of Ouyang and Ho

fails to teach wherein the likely language characters are presented on the display in an

index that associates selection keys of the keypad with the language characters so that

user entry of a selection key results in a selection of a corresponding language

character and user entry of a non-selection key results in further input; the selection

keys being selected based on whether the letters associated therewith follow the

phonetic characters already entered. Griffin teaches wherein the likely language

characters are presented on the display in an index that associates selection keys of the

keypad with the language characters so that user entry of a selection key results in a

selection of a corresponding language character and user entry of a non-selection key .

results in further input; the selection keys being selected based on whether the letters

associated therewith follow the phonetic characters already entered (see col. 10, lines

5-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to provide the teaching of Griffin into the system of Ouyang and

Hoin order to minimize the number of keystrokes.

3.   Claims 11, 12, 34, 35, 43, 44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ouyang (US 6,674372) in view of Ho et al (US 6,307,541) further in

view of Kiraz (US 6,272,464).

As to claims 11, 12, 34, 35, 43, 44, the combination of Ouyang and Ho fails to

teach the device as recited wherein the language system comprises: a surname model

to detect surnames in the input string; and wherein the language system includes the

first name model to detect fist names in the input string. Kiraz teaches a first name

model to detect first names; a surname model to detect surnames; and a character-

based bigram language model (see col. 4, line 49- col. 5, line 15 col. 6, line 61- col. 7,

line 10). Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Kiraz into the system of Ouyang

and Ho in order to identify potential language origins of the name.

4.   Claims 14, 27, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ouyang (US 6,674372) in view of Ho et al (US 6,307,541) further in view of

Matsuzuka et al (US 5,838,972).

        As to claims 14, 27, 51, Ouyang teaches Chinese input method comprising: a

keypad of number keys to receive an input string representative of one or more phonetic

characters (see fig. 1, number 100, col. 7, lines 10-45); a language system to receive

the input string entered via the keypad to generate likely Chinese language characters

based on the input string (see fig. 1, numbers 400, 600, 700, col. 7, lines 10-45); a

language model to derive likely Chinese language character based on the input string

(see fig. 1, number 700, col. 7, lines 27-45) and a processor operative with the key pad

(see fig. 1, number 300, col. 7, lines 10-26) and memory (see fig. 1, number 600, col. 7,

lines 10-26) to support at least the following modes: present of the likely Chinese

language characters on a display (see fig. 1, number 200, col. 2, lines 10-45) selection

of the likely Chinese language characters and further input of one or more Chinese

phonetic characters on the keypad (see col. 7, lines 46-67, col. 8, lines 1-32); Ouyang

fails to teach the language system being configured to facilitate input of the input string

and selection of a language character, a resident language model residing on a mobile

device to convert Chinese phonetic characters input received from the keypad into likely

Chinese language characters using a first statistical language model, a search engine to

identify the likely Chinese characters, wherein the number keys having associated

letters of an alphabet. Ho teaches the language system being configured to facilitate

input of the input string and selection of a language character (see fig. 6, number 604,

col. 12, lines 25-45), a search engine to identify the likely Chinese characters; wherein

the processor functions as the search engine ie. the processor looks up the desired

character in the dictionary (see fig. 5, number 510, col. 12, lines 8-24), a resident

language model residing on a mobile device to convert Chinese phonetic characters

input received from the keypad into likely Chinese language characters using a first

statistical language model (see fig. 6, number 604, col. 12, lines 25-45); wherein the

number keys having associated letters of an alphabet (see fig. 2, col. 3, lines 57-67, col.

4, lines 1-41). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to provide the teaching of Ho into the system of

Ouyang in order to speed up the language conversion process. The combination of

Ouyang and Ho fails to teach a nonresident language model residing on a remote

server, communicatively coupled to the mobile device, to statistically derive the

language characters using a second statistical language model. Matsukara teaches a

nonresident language model residing on a remote server to statistically derive the

language characters using a second statistical language model (see col. 1, line 47- col.

2, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Matsukara into the system of

Ouyang, Ho and Connelly in order to provide additional server due to a large dictionary

of words.

Allowable Subject Matter

Claims 2, 8, 13, 28, 38, 58 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

As to claims 2, 38, the applied reference fails to teach wherein the phonetic

characters are Chinese Pinyin and the language characters are Chinese Hanzi as cited

in the claim.

As to claims 8, 28, 58, the applied reference fails to teach a mobile device,

wherein the language system includes a character-based bigram language model and a

word-based N-gram language model, where N>2 as cited in the claim.

As to claim 13, the applied reference fails to teach the device as recited wherein

the language system comprises: a first name model to detect first names in the input

string; a surname model to detect surnames in the input string; and a character-based

bigram language model as cite in the claim.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-60 have been considered but are

moot in view of the new ground(s) of rejection in responses to applicant's amendment

filed 08/29/2006.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Lee et al (US 7,165,019) teaches language input architecture for converting one

text form to another text form with modeless entry.

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892.

The examiner can normally be reached on 08:00-05:00 (Mon-Fri).
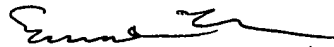
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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N/Le

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